SAMSUNG TECHWIN

NETWORK CAMERA

User Manual

SNB-7000

CE

SAMSUNG

Network Camera
User Manual

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Warranty

If the product does not operate properly in normal conditions, please let us know. Samsung Techwin will resolve the problem for free of charge. The warranty period is 3 years. However, the followings are excluded:

- If the system behaves abnormally because you run a program irrelevant to the system operation.
- Deteriorated performance or natural worn-out in process of time

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

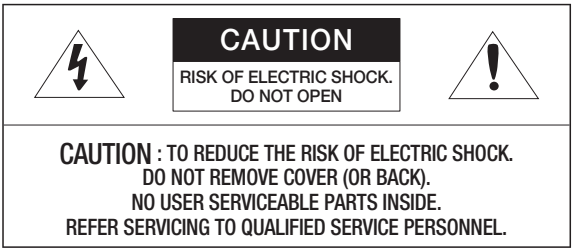
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION


CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

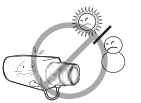
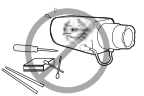
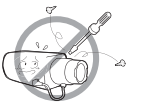
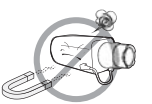
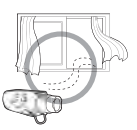
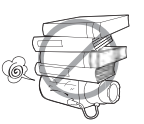
These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The BNC Out terminal of the product is provided for easier installation, and is not recommended for monitoring purposes.
If you keep the BNC cable connected, a risk of lightening may cause damage or malfunction to the product.

Please use the input power with just one camera and other devices must not be connected.

overview

Please read the following recommend safety precautions carefully.

Do not place this apparatus on an uneven surface. 	Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area. 
Do not place this apparatus near conductive material. 	Do not attempt to service this apparatus yourself. 
Do not place a glass of water on the product. 	Do not install near any magnetic sources. 
Do not block any ventilation openings. 	Do not place heavy items on the product. 

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Samsung Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.
The Eco mark represents Samsung Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

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PRODUCT FEATURES

- **Full HD Video Quality**
- **Multi-Streaming**
  This network camera can display videos in different resolutions and qualities simultaneously using different CODECs.
- **Web Browser-based Monitoring**
  Using the Internet web browser to display the image in a local network environment.
- **Alarm**
  If an event occurs, the event-related video will be transferred to the email specified by the user or saved to the SD memory, or the event signal will be sent to the Alarm Out port.
- **Video Motion Detection**
  Detects a motion from the video before triggering an event.
- **Face Detection / Smart Codec**
  Recognizes a face from the camera input video, or transfers a clearer image of your specified area.
- **Auto Detection of Disconnected Network**
  Detects network disconnection before triggering an event.
- **ONVIF (Spec 1.02) Compliance**
  This product supports ONVIF Core Spec. 1.02.
  For more information, refer to www.onvif.org.

Driving network video through global standardization

RECOMENDED PC SPECIFICATIONS

- CPU : Intel Core 2 Duo 2.4GHz or higher
- Operating System : Windows XP, VISTA, 7
  Mac OS
- Resolution : 1280X1024 pixels or higher
- RAM : 2GB or higher
- Web Browser : Internet Explorer 7.0 or higher, Firefox, Chrome, Safari
  - Neither a beta test version unlike the version released in the company website nor the developer version will be supported.
  - On Firefox v3.5 or higher, displaying warning message dialog may cause an error.
  - If connecting to IPv6 in Windows XP, it can cause some problem.
    It is recommended to connect to IPv6 in Windows 7.

- Video Memory : 256MB or higher

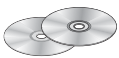
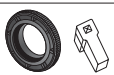
  ▪ If the driver of the video graphic adapter is not installed properly or is not the latest version, the video may not be played properly.

RECOMENDED SD/SDHC MEMORY CARD SPECIFICATIONS

- 2GB ~ 32GB
- To ensure proper recording of video data, it is recommended you use a memory card that supports at least read/write speed 10Mbps and Class 6.

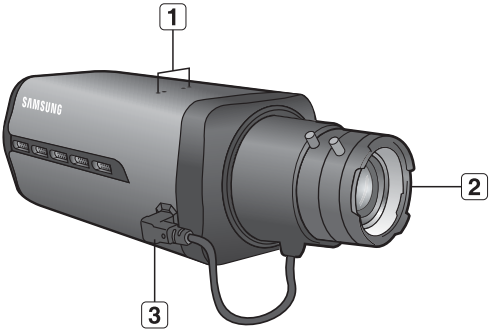
WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	User Manual, Installer S/W DVD, CMS S/W DVD	2	
	Quick Guide	1	
	C Mount Adapter Auto Iris Lens Connector	1	Used to install the camera lens
	Camera Holder (Mount)	1	Used to install the camera holder
	Camera Holder (Mount) Screws	2	Used to install the mount
Lens Options (not included)			
	CS/C Lens		Optional lens to be inserted in a camera

AT A GLANCE

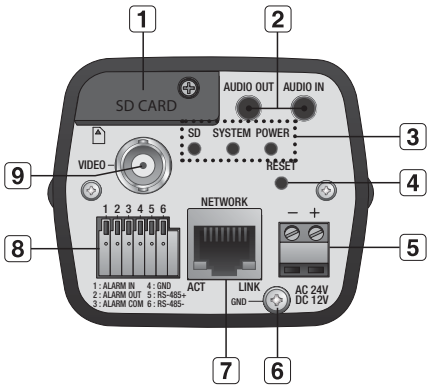
Front Side



Item	Description
1 Camera Holder (Mount) Holes	Used when you mount the camera onto the bracket by fixing the camera holder (mount) adaptor with the bracket.
2 Auto Iris Lens (Optional)	Installed on the lens adaptor.
3 Auto Iris Lens Connector	Used to supply power and output signal to control the iris of the lens.

- Wipe out a dirty surface of the lens softly with a lens tissue or cloth to which you have applied ethanol.

Rear Side



Item		Description	
1	SD Memory Card Compartment	Compartment for the SD memory card.	
2	Audio terminal	AUDIO OUT	Terminal for audio output.
		AUDIO IN	Terminal for audio input.
3	System, Power, SD Indicators	SD	ON : A memory card is inserted and operates normally. Flashing : Failed to record, insufficient space, or inserted abnormally. OFF : Camera is off, camera is restarting, memory card is not in place, or when record is off.
		SYSTEM	ON : The camera is turned on and connected to the network properly. Flashing : During DDNS setup, or in case of setup failure, or in a state of unstable network connection. OFF : When the system is rebooting, or turned off.

Item	Description	
3 System, Power, SD Indicators	POWER	ON : While the power is on OFF : If the power is off
4 Reset Button	Resets the camera settings to the default. Press and hold it for about 5 seconds to turn off the system indicator and restart the system. ! If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.	
5 Power Port	Used to plug the power cable.	
6 GND	Used for earth-grounding.	
7 Network Port	Used to connect a PoE or LAN cable.	
8 I/O Port	ALARM IN	Used to connect the alarm input signal.
	ALARM OUT	Used to connect the alarm output signal.
	ALARM COM	Common port where the alarm output signal is connected.
	GND	Used for earth-grounding.
	RS-485+	RS-485 Data line
	RS-485-	RS-485 Data line
9 Video Out Port	Analog video output port. (for installation)	

! ▪ RS-485 port only supports direct connection with pan/tilt driver and external connections of the RS-485 controller is not supported.

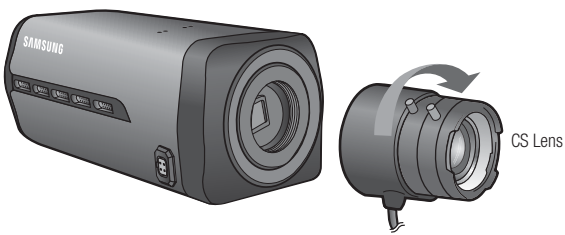
MOUNTING THE LENS

Disconnect the power before proceeding.

- The C lens and CS lens are not included in the product package.
  It is recommended that megapixel lens are use on this camera to optimise performance.

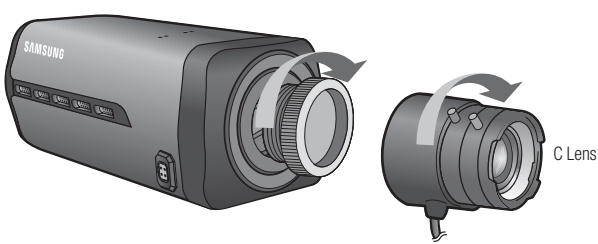
Mounting the CS lens

Turn the optional CS lens clockwise to insert it.



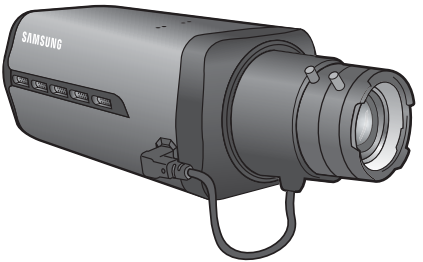
Mounting the C lens

Turn the C mount adaptor clockwise to insert it and do the same with the C lens.



Connecting the Auto Iris Lens connector

Insert the lens connector into the corresponding hole of the camera.



Focusing

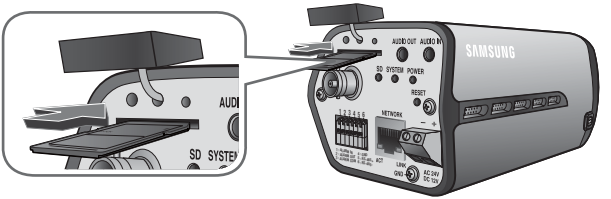
Turn the lens left or right to control the zoom and focus the lens so that you can view a clear, sharp object.

INSERTING/REMOVING AN SD MEMORY CARD

- Disconnect the power cable from the camera before inserting the SD memory card.

Inserting an SD Memory Card

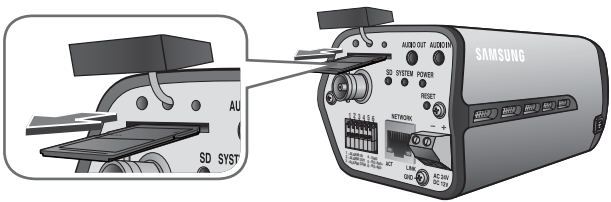
Loosen the screw and open the cover of the SD memory card. Insert the SD card in the arrow direction.



- Do not insert the SD memory card while it's upside down by force. Otherwise, it may damage the SD memory card.

Removing an SD Memory Card

Gently press down on the exposed end of the memory card as shown in the diagram to eject the memory card from the slot.



- Pressing too hard on the SD memory card can cause the card to shoot out uncontrollably from the slot when released.
- To remove the SD memory card, set <**Record**> to <**Off**> from <**SD record**> and press [**Apply (** ✓ **)**]. (page 62)
- If you have saved data in the SD memory card, removing the SD memory card prior to setting record to OFF will cause damage to the data stored in the card.
- If the SD memory is inserted, the SD LED indicator on the rear of the camera will turn on.
- If there occurs a problem in the SD memory, the SD LED indicator will blink.

MEMORY CARD INFORMATION (NOT INCLUDED)

What is a memory card?

The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.

Selecting a memory card that's suitable for you

Your camera supports SD/SDHC memory cards.
You may, however, experience compatibility issues depending on the model and make of the memory card.

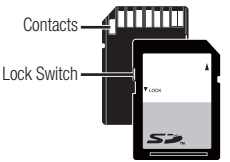
For your camera, we recommend you use a memory card from the following manufacturers:
SD/SDHC Memory Card : Sandisk, Transcend, Kingston

Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card.

Memory Card Use

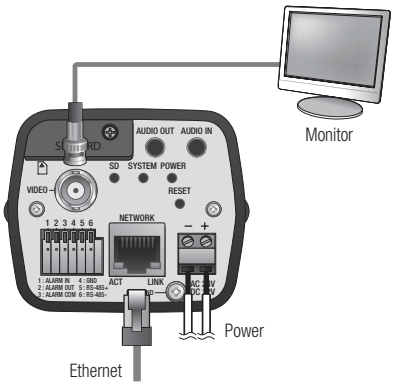
SD and SDHC memory cards feature a switch that disables writing data on to the media. Having this switch to the Lock position will prevent accidental deletion of data stored in the memory card but at the same time will also prevent you from writing data on to the media.

❖ **Memory Card Components**



SD/SDHC

CONNECTING WITH OTHER DEVICE



Connecting to the monitor

Connect the video out port of the camera to the video input port of the monitor.

- In the initial installation of the camera, you can connect the camera to the monitor for checking the connection status.
- You can set the video output type to either NTSC or PAL. (page 46).

Ethernet Connection

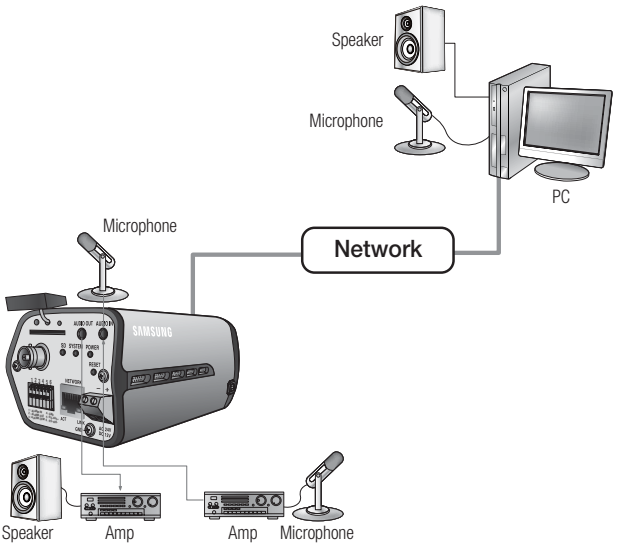
Connect the Ethernet cable to the local network or to the Internet.

Power Supply

Use the screwdriver to connect each line (+, –) of the power cable to the corresponding power port of the camera.

- Be careful not to reverse the polarity when you connect the power cable.
  You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera.
- If PoE and DC 12V are both applied, this camera will get supplied with power from PoE.
- Please make sure the monitor and camera are turned off when connecting them.

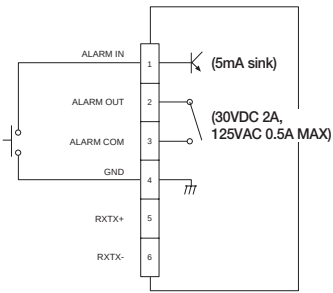
Connecting to Audio Input/Output



1. Connect the AUDIO IN port of the camera with the microphone directly or LINE OUT port of the amplifier that the microphone is connected to.
2. Connect the AUDIO OUT port of the camera with the LINE IN port of the speaker.
3. Check the specifications for audio input.

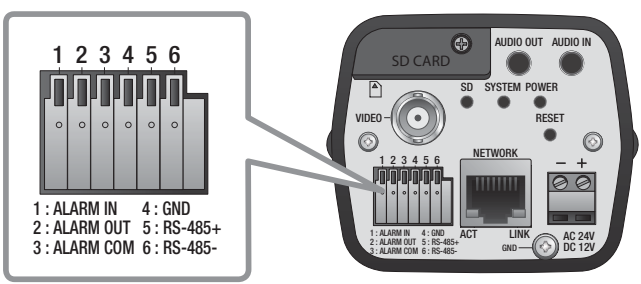
- **Audio Codec**
  G.711 PCM. μ-law 64kbps 8kHz sampling
- **Full duplex Audio**
- **Audio in**
  Used for mono signal line input (Max.2.4 Vpp)
- **Audio out**
  Used for mono signal line output (Max.2.4 Vpp)
- **Line out impedance**
  600Ω

Alarm I/O Wiring Diagram



Connecting to the I/O port box

Connect the Alarm I/O signal to the corresponding port of the rear port box.



- ALARM IN : Used to connect the alarm input signal.
- ALARM OUT : Used to connect the alarm output signal.
- ALARM COM : Common port where the alarm output signal is connected.
- GND : Used for earth-grounding.
- RS-485+ : Communication port for RS-485 receiver (+).
- RS-485- : Communication port for RS-485 receiver (–).

Connecting an external RS-485 device

Connect the camera with an external device using the [**RS-485 +, -**] ports.
You can control the pan/tilt operations of the camera via RS-485 communications.

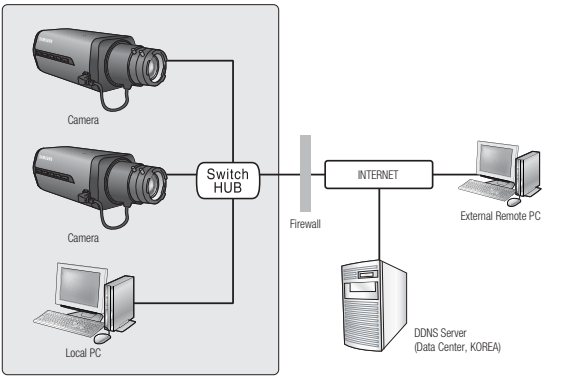
network connection and setup

You can set up the network settings according to your network configurations.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the camera from a local PC in the LAN

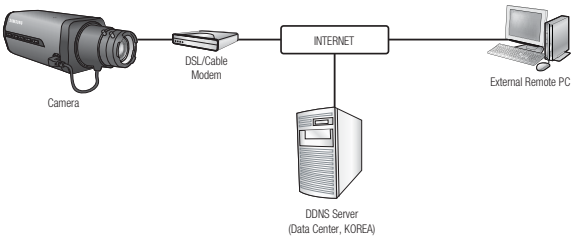
1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



<Local Network>

- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.
- By factory default, the IP address will be assigned from the DHCP server automatically. If there is no DHCP server available, the IP address will be set to 192.168.1.100. To change the IP address, use the IP Installer. For further details on IP Installer use, refer to "**Static IP Setup**". (Page 27)

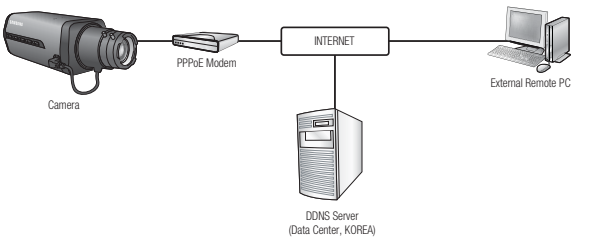
CONNECTING THE CAMERA DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**DHCP**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 57)
- For configuring the DDNS settings, refer to "**DDNS**". (page 56)
- For setting the network type, refer to "**Interface**". (page 55)

CONNECTING THE CAMERA DIRECTLY TO A PPPoE MODEM

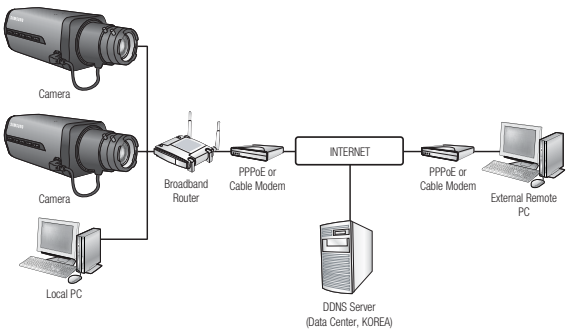


1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**PPPoE**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 57)
- For configuring the DDNS settings, refer to "**DDNS**". (page 56)
- For setting the network type, refer to "**Interface**". (page 55)

CONNECTING THE CAMERA TO A BROADBAND ROUTER WITH THE PPPoE/CABLE MODEM

This is for a small network environment such as homes, SOHO and ordinary shops.



Configuring the network settings of the local PC connected to a Broadband Router

Configuring the network settings of the local PC connected to a Broadband Router, follow the instructions below.

- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>.
- Follow the instructions below if you select <**Use the following IP address**>:

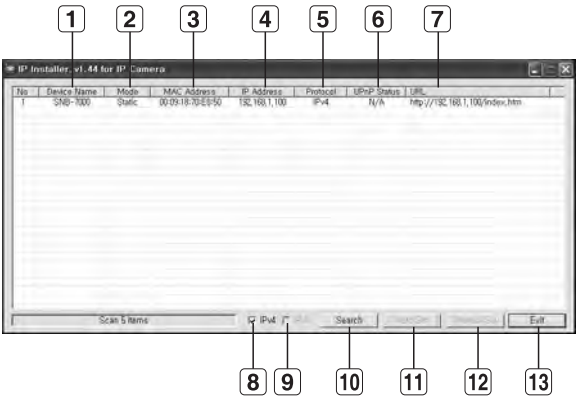
  ex1) If the address (LAN IP) of the Broadband Router is 192.168.1.1
  IP address : 192.168.1.100
  Subnet Mask : 255.255.255.0
  Default Gateway : 192.168.1.1

  ex2) If the address (LAN IP) of the Broadband Router is 192.168.0.1
  IP address : 192.168.0.100
  Subnet Mask : 255.255.255.0
  Default Gateway : 192.168.0.1

  ex3) If the address (LAN IP) of the Broadband Router is 192.168.xxx.1
  IP address : 192.168.xxx.100
  Subnet Mask : 255.255.255.0
  Default Gateway : 192.168.xxx.1

- For the address of the Broadband Router, refer to the product's documentation.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the Broadband Router's documentation. (Page 31)

BUTTONS USED IN IP INSTALLER



Item	Description
1 **Device Name**	Model name of the connected camera. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
2 **Mode**	Displays either <**Static**> or <**Dynamic**> for the current network connection status.
3 **MAC(Ethernet) Address**	Ethernet address for the connected camera. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
4 **IP Address**	IP address. Click the column to sort the list by IP address. However, search will be stopped if clicked during the search. The factory default is "**192.168.1.100**".
5 **Protocol**	Network setting for the camera. The factory default is "IPv4". Cameras with the IPv6 setting will be displayed "IPv6".
6 **UPnP Status**	This function is not currently implemented.

Item	Description
7 URL	DDNS URL address enabling access from the external Internet. However, this will be replaced with the <**IP Address**> of the camera if DDNS registration has failed.
8 IPv4	Scans for cameras with the IPv4 setting.
9 IPv6	Scans for cameras with the IPv6 setting.
10 Search	Scans for cameras that are currently connected to the network. However, this button will be grayed out if neither IPv4 nor IPv6 is checked.
11 Auto Set	The IP Installer automatically configures the network settings.
12 Manual Set	You should configure the network settings manually.
13 Exit	Exits the IP Installer program.

- For the IP installer, use only the installer version provided in the installation DVD or use the latest one if available. You can download the latest version from the product website.

STATIC IP SETUP

Manual Network Setup

Run <**IP Installer_vX.XX.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.

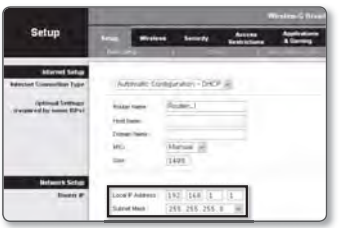
1. Select a camera in the search list. Find the MAC (Ethernet) address labeled on the rear of the camera. Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Manual Set**]. The Manual Setting dialog appears. The default values of <**IP Address**>, <**Subnet Mask**>, <**Gateway**>, <**HTTP Port**> and <**VNP Port**> of the camera will be displayed.

3. In the <**Address**> pane, provide the necessary information.
   - MAC (Ethernet) Address : The MAC (Ethernet) address of the applicable camera will be set automatically so you don't need to input it manually.

- You can configure the static IP settings only if the DHCP checkbox is unchecked.

If using a Broadband Router

- IP Address : Enter an address falling in the IP range provided by the Broadband Router.
  ex) 192.168.1.2~254,
  192.168.0.2~254,
  192.168.XXX.2~254
- Subnet Mask : The <**Subnet Mask**> of the Broadband Router will be the <**Subnet Mask**> of the camera.
- Gateway : The <**Local IP Address**> of the Broadband Router will be the <**Gateway**> of the camera.



- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the Broadband Router's documentation. (Page 31)

If not using a Broadband Router

For setting <**IP Address**>, <**Subnet Mask**>, and <**Gateway**>, contact your network administrator.

4. In the <**Port**> pane, provide necessary information.
   - HTTP Port : Used to access the camera using the Internet browser, defaulted to 80. Use the spin button to change the HTTP Port value.
   - VNP Port : Used to control the video signal transfer, defaulted to 4520.

5. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera.
   The default password is "**4321**".

6. Click [**OK**].
   Manual network setup will be completed.
7. When the manual setup including IP is completed, the camera will restart.

If the Broadband Router has more than one camera connected

Configure the IP related settings and the Port related settings distinctly with each other.

Category		Camera #1	Camera #2
IP related settings	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
Port related settings	HTTP Port VNP Port	8080 4520	8081 4521

- If the <**HTTP Port**> is set other than 80, you must provide the <**Port**> number in the address bar of the Internet browser before you can access the camera.
  ex) http://IP address : HTTP Port
  http://192.168.1.100:8080

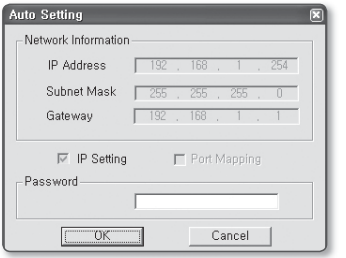
Auto Network Setup

Run <**IP Installer_vX.XX.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.

1. Select a camera in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the camera.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Auto Set**].
   The Auto Setting dialog appears.
   The <**IP Address**>, <**Subnet Mask**>, and <**Gateway**> will be set automatically.

3. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera. The default password is "**4321**".
4. Click [**OK**].
   Auto network setup will be completed.



DYNAMIC IP SETUP

Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If a Broadband Router, with cameras connected, is assigned an IP address by the DHCP server
  - If connecting the camera directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

Checking the Dynamic IP

1. Run the IP Installer on the user's local machine to display cameras allocated with <**Dynamic IP**> addresses in the list.
2. Select a camera in the list, and click [**Manual Set**] to check the <**Dynamic IP**> of the camera.
   If you uncheck <**DHCP**>, you can change IP to <**Static**>.

PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a Broadband Router with a camera connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the camera in it.

Manual Port Range Forwarding

1. From the Setup menu of the Broadband Router, select <**Applications & Gaming**> - <**Port Range Forward**>. For setting the port range forward for a third-party Broadband Router, refer to the user guide of that Broadband Router.
2. Select <**TCP**> and <**UDP Port**> for each connected camera to the Broadband Router.
   Each port number for the Broadband Router should match that specified in <**Network**> - <**Port**> from the camera's Setup menu.
3. When done, click [**Save Settings**]. Your settings will be saved.

- Above sample instructions are based on the CISCO's Broadband Router (Model: LINKSYS).
- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.

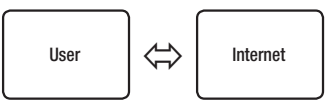
Setting up Port Range Forward for several network cameras

When several network cameras are connected to one Broadband Router device, you should forward the TCP 943 port of the router to the TCP 943 port of a connected camera.

- If you don't set properly the TCP 943 port of the router, you cannot get any video stream from the web page of the camera.

- TCP 943 port is a port for the Silverlight policy server of a camera.

When Camera1 and Camera2 are connected to a router :



Broadband Router			
Start	End	Protocol	IP Address
943	943	TCP	192.168.1.100
3000	3000	TCP/UDP	192.168.1.100
3001	3001	TCP/UDP	192.168.1.101
4520	4520	TCP/UDP	192.168.1.100
4521	4521	TCP/UDP	192.168.1.101
8080	8080	TCP/UDP	192.168.1.100
8081	8081	TCP/UDP	192.168.1.101

Camera1 (192.168.1.100)	
Web Server Port	8080
VNP Port	4520
RTSP Port	3000
Policy Server Port	943

Camera2 (192.168.1.101)	
Web Server Port	8081
VNP Port	4521
RTSP Port	3001
Policy Server Port	943

- You can set a rule of Port Forwarding on the Broadband Router device through its configuration web page.
- You cannot change the Silverlight policy server port of a camera.
- You can change the ports of the camera except the policy server port through its configuration web pages.

CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

1. Run the IP Installer.
   It will scan for connected cameras and display them as a list.
2. Double-click a camera to access.
   The Internet browser starts and connects to the camera.

- Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

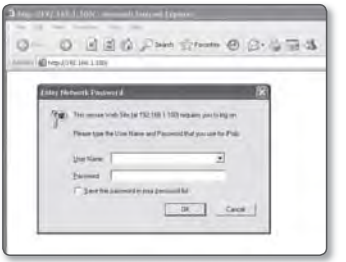
CONNECTING TO THE CAMERA FROM A REMOTE PC VIA THE INTERNET

Since using the IP Installer on a remote computer that is not in the Broadband Router's network cluster is not allowed, users can access cameras within a Broadband Router's network by using the camera's DDNS URL.

1. Before you can access a camera in the Broadband Router network, you should have set the port range forward for the Broadband Router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the camera, or the IP address of the Broadband Router in the address bar.
   ex) http://www.samsungipolis.com/[Product domain]

CONNECTING TO THE CAMERA

Normally, you would



1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.
   ex) • IP address (IPv4) : 192.168.1.100
   → http://192.168.1.100
   - the Login dialog should appear.
   • IP address (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111
   → http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - the Login dialog should appear.

If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera in the address bar.
   ex) IP address : 192.168.1.100:HTTP Port number(8080)
   → http://192.168.1.100:8080 - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the camera in the address bar.
   ex) URL address : http://www.samsungipolis.com/[Product domain]
   - the Login dialog should appear.

To check the DDNS address

If the camera is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.
If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.
To add the IP address to the <**DDNS**> server, visit www.samsungipolis.com and register your device, and set the DDNS option to <**Samsung DDNS**> before providing the host name for the DDNS server.

LOGIN

The default user ID is "**admin**", and the default password is "**4321**".

1. Enter "**admin**" in the <**User Name**> input box.
2. Enter "**4321**" in the <**Password**> input box.
   If the password is changed, enter the changed password instead.
3. Click [**OK**].
   If you have logged in successfully, you will the Live Viewer screen.

Enter Network Password
This secure Web Site (at 192.168.1.100) requires you to log on.
Please type the User Name and Password that you use for iPolis.
User Name
Password
Save this password in your password list
OK
Cancel

- For security purposes, ensure that you change the password in <**System**> - <**User**>. The administrator ID, "**admin**", is fixed and can not be changed.
- If you check the "**Save this password in your password list**" option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.

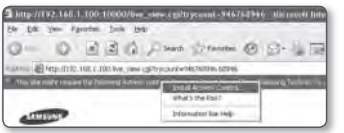
- If you are using Internet Explorer 7.0 or 8.0 as the default web browser, you can view the best quality image with a screen ratio of 100%. Reducing the ratio may cut the image on the borders.

INSTALLING ACTIVEX

If connecting to a camera for the first time, you will see the installation message. Then, install the required ActiveX to access the camera and control the video from it in real time.

1. When accessing the start screen of the monitoring page, click the yellow warning message in the top of the page.

2. Click <**Install ActiveX Control...**>.



3. The security warning popup appears, click [**Install**].
4. When the required ActiveX is installed properly after your access to the camera, the Live screen should appear.

Internet Explorer - Security Warning
Do you want to install this software?
Name: Samsung Smart Viewer
Publisher: Samsung Techwin Co., Ltd.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

INSTALLING SILVERLIGHT RUNTIME

If your PC has not installed Silverlight Runtime or has just installed an old runtime version, you will be redirected to the Silverlight Runtime installation page automatically when accessing the web viewer.

1. Click <**Click Here**>.

2. When the file download dialog pops up, click <**Run**>.

File Download - Security Warning
Do you want to run or save this file?
Name: Silverlight_Developer.exe
Type: Application, 7.63 MB
From: 192.168.1.100
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

3. When the download is completed, click <**Run**>.

Internet Explorer - Security Warning
Do you want to run this software?
Name: Microsoft Silverlight for Developers Installer
Publisher: Microsoft Corporation
More options
Run
Don't Run
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

4. The Silverlight Runtime installation page will be displayed. <**Install now**> to proceed with the installation.

5. When done, click <**Close**>.

6. Close and restart the web browser, and try to access the Web Viewer.
When Silverlight Runtime is properly installed, you will see the Live screen.

- For normal installation, set the Block Popup setting as follows:
  ex) Internet Explorer → Tools → Block Popup → Always allow popups from the current site(A)
- However, MAC OS X users who are not connected to the Internet can use the provided installation DVD to install Silverlight Runtime (Run the executable "Silverlight_xxx.dmg" in the DVD. You will be guided through installation of the software).

- ActiveX and Silverlight Web Viewer can operate in the following conditions:
  - Internet Explorer : Open the ActiveX viewer. It can be run in all resolutions.
  - Other browsers: Open the Silverlight viewer. For H.264, resolutions of 1600 x 1200 and 2048 x 1536 (1920 x 1080 or higher) cannot be displayed.

USING THE LIVE SCREEN

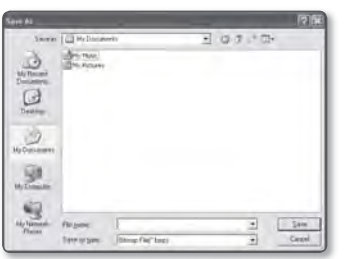
Item	Description
1 Monitoring	Move to the monitoring screen.
2 Playback	Switch to the monitoring screen that plays recording data in the SD memory.
3 Setup	Move to the Setup screen.
4 Viewer Screen	Displays the Live video on the screen.
5 Alarm Output	Activate the Alarm Out port.
6 Audio	Display the audio Listen and Talk toggle button on the screen.
7 Hide the alarm indicator	Hides the alarm indicator near the border of the viewer screen.

Item	Description
8 PTZ	Control the pan/tilt/zoom operations of the camera. ▪ The pan/tilt operations will be enabled only if the camera is connected to a pan/tilt-compliant receiver.
9 Digital zoom	You can use the mouse wheel to activate the digital zooming.
10 Screen Optimization, Full Screen	Adjust the screen to the optimal size, and display the Full Screen icon on the Live screen.
11 Capture	Saves the snapshot as an image file in the .bmp format.
12 Video Format	You can select a profile type in <**Video profile**> under the <**Audio & Video**> setup menu. If the "Invalid codec" message is displayed, select a profile type from the profile list again.

- If the temperature drops below the operational range, video signal may not be produced. In such cases, please wait for the video.
- Web pages related to playback and setting menus are accessible only by the admin. For other user accounts, the buttons will be deactivated.

To capture the snapshot

1. Click [ ] on the scene to capture.
   The Capture dialog should appear.
2. Click [**Save**] button.
   The screenshot will be saved in the specified path.



- If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".

To toggle the audio sound

1. Click the [**Audio (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button to listen to / mute the sound as you wish.
   This button operates as a toggle button.

To toggle the microphone sound

1. Click the [**Mic (** **)**] button.
   The corresponding button will be displayed in the Viewer.

- "**Cannot find audio recording device**" message appears if there is no Microphone.

2. Click the button to start / stop talking.
   This button operates as a toggle button.
   The Silverlight permission dialog appears when you click the microphone button.

- As the AUDIO and MIC buttons (,) are simply to display or hide the toggle button on the viewer screen, you cannot control the actual operations of those buttons.
  So if you want to adjust the microphone or audio settings, use the toggle button on the viewer screen.

To fit the full screen

1. Click the [**Full Screen (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button.
   This will fit the Viewer to the full screen.
3. To exit the full screen mode, press [**Esc**] on the keyboard.

- For the ActiveX viewer, you can just click an appropriate button on the page to perform the operation as the audio I/O buttons and the Full Screen button are not displayed in the top of the screen.

To control the PTZ

1. Press the [**PTZ (**)] button.
2. When the PTZ button bar appears on the screen, use the direction buttons to adjust the camera angle, zoom factor or focus to your preference.

- For further details on PTZ use, refer to "**External PTZ setup**". (page 53)

PLAYBACK

1. Click the [**Playback (**)] button.
2. Specify the start time and end time of your search.
3. Select a search type.
4. Click the [**Search (**)] button. The search results will be displayed in the list.

- If more than 500 events are recorded within the search period, your search will be limited up to the date when the 500th event is recorded.
  For instance, if the search period is between 10th and 15th day of the month, and more than 500 events were recorded 10th through 11th, your search will be limited up to 11th day with a total of 500 events, and events after then (from 12th) will not be found.

5. Select a data item to play in the search list.
6. Click the [**Play (**)] button.
7. To stop playing the video, click [**Stop (**)].
   To return to the search screen, click [**Exit (**)].

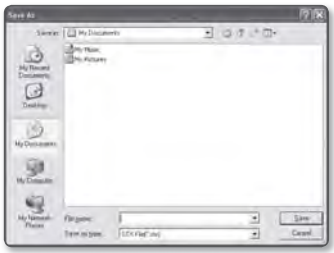
- The Silverlight web viewer can [**Playback**] an image in resolutions of up to 640x480. However, the MJPEG codec is available for all resolutions.

To check time information of the playing video

1. Click the [**About (**)] button.
2. Date and time information appears on the screen.

To back up the searched video

1. Click [ ] on the scene to back up. Save as window appears.
2. Click [**Save**].
   The screenshot will be backed up to the specified path.



- If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".

To play the backup video

The backup video will be saved in .avi format. The backup video can be played in any of the multimedia formats supported in your PC.

setup screen

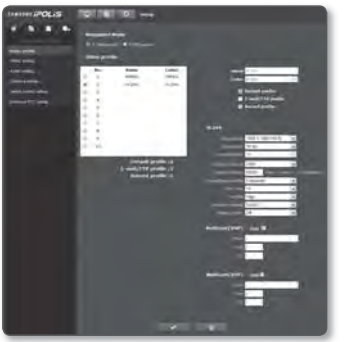
SETUP

You can configure the audio & video, network, event and system settings of the camera via the network.

1. In the Live screen, click [**Setup (**)].
2. The Setup screen appears.

AUDIO & VIDEO SETUP

Video profile



1. From the Setup menu, select the <**Audio & Video (**)> tab.
2. Click <**Video profile**>.
3. Specify the <**Megapixel Mode**>. You can select <**2-Megapixel**> or <**3-Megapixel**>. If you change the mode, you will see the video reset message. If you confirm the message, the video settings will be reset.
4. Select a <**Video profile**> number.
5. Click the input box of each item and enter / select a desired value.
   - The context menu may differ depending on the selected codec type.

- Default profile : This is the default video profile.
- E-mail/FTP profile : Video profile to be transferred to the specified email or FTP site.
  - Only the MJPEG codec can be set as the E-mail/FTP profile.
- Record profile : This is the profile that is applied to video recording.

6. When done, click [**Apply (**)].

To add a video profile

You can add as many codecs as necessary so that a variety of profiles can be applied according to the recording condition.

1. Select a profile number.
2. Provide the name and select a codec.
3. Specify the conditions under which the codec will be applied.
4. Specify the details of the selected codec including resolution and frame rate.
   - Resolution : Set the video size of the H.264 and MJPEG files.
   - Framerate : Specify the frame rate.
   - Compression : Specify the compression rate of the video.
   - Maximum bitrate : Specify the maximum bit rate of the video.

   ▪ As the bit rate can be adjusted limitedly according to the resolution, frame rate and screen complexity, the actual bit rate can be greater than the maximum bit rate. So you must consider the use conditions when setting the value.

   - Bitrate control : You can select one from constant bit rate and variable bit rate for compression. Constant bit rate (CBR) varies the video quality and fixes network transfer bit rate, while variable bit rate emphasizes the quality by varying network transfer bit rate.
   - Target bitrate : Specify the bit rate at which you will transfer the video.
   - Encoding priority : You can set the video transfer method to Framerate or Compression.
   - GOP size : Select a GOP size between 1 and 15.
   - Profile : You can select the H.264 profiling method.
   - Entropy coding : Reduce the possible compression loss due to encoding.
   - Smart codec : Specify the use of Smart codec.

   ▪ The Smart Codec will be active only if the codec is of H.264 and the compression system is CBR.

   - Multicast(VNP) : Specify the use of the VNP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : Set the TTL for the VNP packet.
   - Multicast(RTP) : Specify the use of the RTP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : You can set the TTL for the RTP packet.

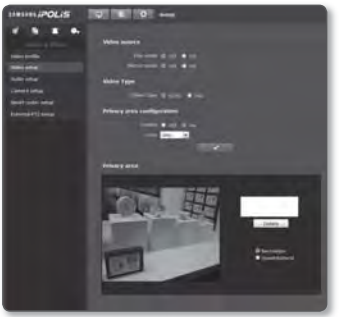
What is GOP size?

GOP(Group of Pictures) is a set of video frames for H.264 compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame. GOP consists of 2 kinds of frames: I-Frame and P-Frame.

I-Frame is the basic frame for the compression, also known as Key Frame, which contains one complete image data. P-Frame contains only the data that has changed from the preceding I-Frame.

You can specify a value between 1 and 15 for the H.264 CODEC.

Video setup



1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Video setup**>.
3. Select a <**Video source**> mode.
   - Flip mode : Turn upside down the image that is captured by the camera.
   - Mirror mode : Flip horizontal the image that is captured by the camera.
4. Select the <**Video Type**>.
5. Specify the privacy zone.
6. When done, click [**Apply (** **)**].

To set the privacy zone

You can specify a certain area of the camera video to be protected for your privacy.

1. Set it to <**On**>.
2. Specify the privacy zone.
   - Rectangle: Place the cursor at a point in the video and drag it to whatever you need.
     You can specify up to 12 zones.
   - Quadrilateral: Select 4 vertices (forming a quadrilateral) on the video.
     You can specify up to 1 zone.

3. Provide a name and press [**OK**].
4. If you want to delete an area, select that area in the list and press [**Delete** (Delete)].
5. When done, click [**Apply** ( )].

Audio setup

You can configure the I/O settings of the audio source from the camera.

1. From the Setup menu, select the <**Audio & Video** ( )> tab.
2. Click <**Audio setup**>.
3. Adjust the audio I/O levels to your preference.
   - Audio-In : You can set the use of audio input and specify the input value.
   - Audio-Out : You can set the use of audio output and specify the output value.
4. When done, click [**Apply** ( )].

Camera setup

You can change the camera settings according to the environment where the camera is located.

1. From the Setup menu, select the <**Audio & Video** ( )> tab.
2. Click <**Camera setup**>.
3. Configure the settings as necessary of : SSDR, White balance, Backlight, Exposure, Special, OSD, Time OSD
4. When done, click [**Apply** ( )].
   - If a certain time (timeout: 240s) is elapsed with your not pressing the [**Apply** ( )] button after changing the settings, your changes will not be applied.

SSDR (Samsung Super Dynamic Range) Setup

In a scene where the difference between bright and dark is severe, you can increase the brightness of the dark area alone to regulate the overall brightness.

1. Select <**SSDR**>.
2. Set <**Mode**> to <**On**>.
3. Configure the <**Level**> and <**D-Range**> settings as necessary.
   - Level : Adjust the level of the dynamic range.
   - D-Range : Select the amplitude area of the dynamic range.

White balance Setup

You can correct the image colors based on white under any lighting conditions.

1. Select <**White balance**>.
2. Select <**Mode**>.
   - ATW : Corrects the colors of the camera video automatically.
   - Manual : You can adjust the red and blue gains of the camera video manually.
   - AWC : Corrects the colors of the camera video to be optimized to the current lighting condition and screen mode.
     You may need readjustment if the lighting condition is changed.
   - Outdoor : Automatically corrects the video colors of the camera to be optimized to the outdoor environment.
   - Indoor : Automatically corrects the video colors of the camera to be optimized to the indoor environment.

- In AWC mode, click the [**AWC Set**] button if you want to keep the white balance level of the current image.

BLC Setup

You can specify a desired area on the video manually and set the area to be displayed more clearly.

1. Select <**Backlight**>.
2. Set <**Mode**> to <**BLC**>.
3. Set <**BLC level**>.
   You can change the level to adjust the brightness of the monitoring area.
4. Set the <**Top, Bottom, Left, Right**> levels to specify the target area.

HLC (Highlight Compensation) Setup

When a strong light such as streetlamp or headlight faces forward to the camera, you can mask that exposed area in order to protect it from being saturated.

1. Select <**Backlight**>.
2. Set <**Mode**> to <**HLC**>.
3. Set the <**HLC level**> and the <**Mask tone**>.
   - HLC level : Adjust the brightness level so as to remove the incoming highlight from a specific condition.
   - Mask tone : Adjust the mask tone of the highlighted area.

- At night operation, this function will be activated only if the incoming highlight exceeds a certain area in a low contrast environment.
- At night, HLC will not function if the scene is either too bright or too dark.

WDR Setup

It displays a sharp image of the objects in a scene where both bright and dark areas exist.

1. Select <**Backlight**>.
2. Set <**Mode**> to <**WDR**>.
3. Specify the <**WDR level**>.

- WDR is available only if <**Megapixel Mode**> is set to <**2-Megapixel**>.
- If WDR mode is activated, you cannot change the shutter type.

Exposure Setup

You can adjust the exposure level of the camera.

1. Select <**Exposure**>.
2. Select each item and set it properly.
   - Brightness : Adjust the screen brightness.
   - Shutter mode : Adjust the electronic shutter of the camera.
     - ESC (Electronic shutter control) : Adjust the shutter speed automatically according to the ambient brightness.
       - This will be activated if <**Lens**> is set to <**Manual**>.
     - Manual : Adjust the shutter speed of the camera manually.
     - A.FLK (Anti flicker) : This will prevent the screen from flickering.
   - Shutter speed : Control the shutter speed manually.
   - SSNR3 : Specify the use of noise reduction.
   - SSNR3 level : Adjust the noise reduction level.
   - Sens-up mode : Automatically senses the darkness level at night or in a low contrast scene and extends the accumulation time accordingly for a bright and sharp image.
     - If you set the shutter mode to Manual/A.FLK, SENS-UP mode will be deactivated.
     - The greater the video accumulation factor is, the brighter the screen is but the afterimage of a moving object grows accordingly.

- Sens-up limit : Set the work condition to Auto mode in a low contrast scene.
- Lens : You can set the camera lens to AUTO or MANUAL to your preference.
  - DC(Auto) : Select this if you use the DC lens. Only the iris is adjusted automatically, but the focus is not controlled automatically.
  - Manual : Select this if you use a lens on which you adjust the iris and focus manually.
- AGC mode : Specify the level according to the screen luminance.
- Indoor/Outdoor : Select Indoor or Outdoor for the installation environment.

Special Setup

1. Select <**Special**>.
2. Select each item and set it properly.
   - Day & night : You can switch the mode to adjust the black and white level as well as the colors.
     - Color : Always displays the video in colors.
     - B/W : Always displays the video in black and white.
     - Auto : Displays in color mode during normal daytime and switches to black and white mode in a low contrast scene at night.
       - If you set the AGC mode to OFF from <**Exposure**>, the AUTO DAY/NIGHT mode will be disabled accordingly.
     - Externel B/W : Control the image modes of Color and B/W when an external IR is synchronized via the Alarm In port.
   - Dwell time : This is the time while each applicable lighting condition is kept in order to enable the switch between day and night modes.
   - Duration : Adjust the brightness of the lighting where the mode switch occurs.
   - Sharpness mode : Adjust the overall sharpness of the image.
     If selecting <**On**>, you can adjust the sharpness of the image.
   - Sharpness level : The higher the level is, the sharper and clearer the outline of the image becomes.
   - Gamma : Adjust the contrast of the image.
   - Color level : Adjust the color level of the image.
   - Alarm in : Set the image to Color or B/W depending on the state of the alarm sensor in sync with the IR.
     - If the Day & Night mode is set to Externel B/W, the alarm-in function of the event-alarm input page will be disabled.

OSD Setup

1. Select <**OSD**>.
2. Select each item and set it properly.
   - Camera title : Use alphanumeric characters in the list and enter a desired title in the bottom input line.
     - You can enter up to 15 characters for the title.
   - Camera title position x, y : Specify the coordinates where the camera title is displayed.

Time OSD Setup

1. Select <**Time OSD**>.
2. Select each item and set it properly.
   - Time display : Specify the use of time display.
   - Date format : Specify the date format that will be displayed on the screen.
   - Time position display X, Y : Specify the position of time.

Smart codec setup

Set a desired area of the video incoming from the camera as ROI area and specify the detection sensitivity for the area.

1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Smart codec setup**>.
3. Select ROI Area.
   - Face Detection : Active if a face is recognized on the monitoring screen.

   - Face detection is enabled only if the following conditions are met:
     - The face is positioned at ±45 degrees to the left or right from the top.
     - The effective range of the face rotation is ±30 degrees vertically, and ±60 degrees horizontally.
     - The minimum size of the face is 20x20 based on the resolution of 320x240.
   - Manual : Specify the ROI area to monitor manually.

4. Select a quality and detection sensitivity for the ROI area.
5. If manually specifying the ROI area, select a desired area with the mouse pointer and drag it as much as you want.
   - You can specify up to 5 distinct areas.
6. To cancel your selection, simply click [ ].
7. When done, click [**Apply (** **)**].

- The Smart codec will not be active if it is set to <**Off**> in <**Video profile**>. (page 44)

External PTZ setup

You can change the direction of lens and activate the zoom.

1. Select the <**Audio & Video (** **)**> tab from Setup menu.
2. Click <**External PTZ setup**>.
3. Click [**Direction Adjustment (** **)**].
   - [**Change direction to (** **)/(** **)/(** **)/(** **)**] : Change the direction of camera lens.
   - [**Moving speed control (** **)**] : The bigger the number is, the faster the moving speed becomes.

4. Set the zoom and focus control buttons.
   - [**Zoom In (** **)**] : Zooms in the screen.
   - [**Zoom Out (** **)**] : Zooms out the screen.
   - [**Adjust Focus (** **/** **)**] : Adjusts the focus in the screen.
   - [**Zoom Speed Control (** **)**] : The bigger the number is, the faster the zoom speed becomes.
5. Set the preset.

- The pan/tilt operations will be enabled only if the camera is connected to a pan/tilt-compliant receiver.

To add a preset

1) Select the preset number to add.
2) Set the name for the preset.
3) Press the [+] button.

To delete a preset

1) Select the preset number to delete.
2) Press the [🗑] button.

To move a preset

1) Select a preset number that you want to move.
2) Press the [↷] button.

6. Specify the serial port.
You can set the RS-485 communication mode for pan/tilt-compliant receiver that is connected to the network camera.

- Protocol : Select one from SAMSUNG-T/ SAMSUNG-E / PELCO-D/ PELCO-P/ SUNGJIN.
- Camera ID : Provide a camera ID.
- Baud rate : Transfer rate for RS-485 communications
- Data : Specify the data bit.
- Parity : Specify the parity bit.
- Stop bit : Specify the stop bit.

▪ All these operations above mentioned will be enabled only if the network camera is properly connected to the pan/tilt-compliant receiver. And the serial port for the pan/tilt operations should be properly specified.

▪ The baud rate may not be controlled depending on the product specifications.

7. When done, click [**Apply** (✓)].

NETWORK SETUP

Interface

1. From the Setup menu, select the <**Network (**)> tab.
2. Click <**Interface**>.
3. Set the <**Interface**> and <**IPv6 setup**> as necessary.
   - IP type : Select an IP connection type.
     - Manual : Specify the IP address, Subnet mask, Gateway, DNS1, and DNS2.
     - DHCP : Specify the DNS1 and DNS2.
     - PPPoE : Specify the DNS1, DNS2, Name and Password.
     - If you set it to <**Manual**>, you should specify the IP, Subnet mask, Gateway, DNS 1 & 2 manually.
   - MAC address : Shows the MAC address.
   - IP address : Displays the current IP address.
   - Subnet mask : Displays the <**Subnet mask**> for the set IP.
   - Gateway : Displays the <**Gateway**> for the set IP.
   - DNS1/DNS2 : Displays the DNS(Domain Name Service) server address.
   - IPv6 use : Specify the use of IPv6.
   - Default IPv6 Address : Obtains the IPv6 address to access the IPv6 network.
     - Use Default Address Only : Use only the default IPv6 address.
     - Obtain IP address via DHCP : Display and use the IPv6 address obtained from the DHCP server.
     - Use the following IP Address : Enter an IP address manually and use it.

- Select only one from three types of address.

4. When done, click [**Apply (**)].

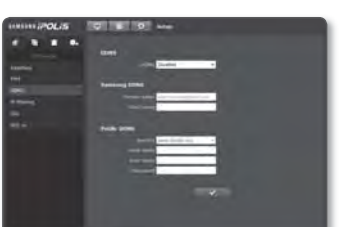
- The IP addressing system will be defaulted to DHCP. If no DHCP server is found, the previous settings will be restored automatically.

Port

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**Port**>.
3. Type in each item in the Port menu as necessary.
   - Neither the port range between 0 and 1023 nor port 3702 is available.
   - HTTP port : HTTP port used to access the camera via the web browser.
     The default is 80(TCP).
   - VNP port : Set a port used to transfer video signals with the Samsung protocols.
   - RTSP port : Used to transfer videos in the RTSP mode; the default is 554.
   - Viewer port : Used to transfer videos to the Web Viewer; the default is 4520.
   - Silverlight policy port : Silverlight is used to permit to acquire a network connection; the default is 943.
     - The port range of the Viewer is between 4502 and 4532. If the VNP port is with this effective range, the Viewer port should be specified the same as the VNP port.
     - You cannot change the Viewer/Silverlight policy port of a camera.
4. When done, click [**Apply (** **)**].

DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera into a general Host Name so that the user can easily remember it.



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**DDNS**>.
3. Select <**DDNS**>.
4. Type in the DDNS items according to the selected type.
   - Samsung DDNS : Select this if you use the DDNS server provided by Samsung Techwin.

- Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
  - Host name : Enter the name of the host (i.e., host name of Dyndns) that is registered with the DDNS server.
  - User name : Enter the user name for the DDNS service. (i.e., user ID that is registered with Dyndns)
  - Password : Enter the password for the DDNS service. (i.e., password that is registered with Dyndns)

5. When done, click [**Apply ( )**].

Registering with DDNS

To register your product with the Samsung DDNS

1. Visit the iPOLiS web site(www.samsungipolis.com) and sign in with a registered account.

2. From the top menu bar, select <**DDNS SERVICE**> - <**MY DDNS**>.

3. Click [**PRODUCT REGISTRATION**].
4. Enter the product domain.
   - You must perform the duplicate check for the domain that you entered.

5. Select a <**CLASSIFICATION**> and specify the <**MODEL NUMBER**>.
6. Specify the product location with a description if necessary.
7. Click [**REGISTRATION**].
   The product will be added to the product list that you can check.

To connect to the Samsung DDNS in camera setup

1. From the DDNS setup page, set <**DDNS**> to <**Samsung DDNS**>.
2. Provide the <**Host name**> that you registered product domain with the DDNS site.
3. Click [**Apply (** ✓ **)**].
   When the connection is successfully made, you will see the message of <**(Success)**> on the screen.

Configuring public DDNS in Camera Settings

1. Open the DDNS settings page and select <**Public DDNS**> for <**DDNS**>.
2. Enter the corresponding site's host name, user name and password.
3. Click [**Apply (** ✓ **)**] button.
   If the connection properly establishes, <**(Success)**> appears.
4. When done, click [**Apply (** ✓ **)**].

IP filtering

You can create a list of IPs that you want to grant or deny access to them.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**IP filtering**>.
3. Select <**Filtering type**>.
   - Deny : If selecting this, access from those IPs that are added to the filtering will be restricted.
   - Allow : If selecting this, access from only those IPs that are added to the filtering will be accepted.
4. Provide the IP that you want to grant or deny access from.
   For IPv4, the default IP address is 0.0.0.0, and the default prefix is 32.
5. Select desired IP address to be approved or rejected from the entered IP addresses. Only the selected IPs are filtered out.
6. When done, click [**Apply (** **)**].

SSL

You can select a secure connection system or install the public certificate for this purpose.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**SSL**>.
3. Select a secure connection system.
   - To access the camera using HTTPS mode, you have to type the IP address for the camera in the form of "https://<Camera_IP>".
4. Search for the public certificate that you want to install on the camera.
   To install the certificate on the camera, you need to provide a certificate name (it can be arbitrarily assigned by the user), certificate file issued from the certification authority and a key file.
   - The <**HTTPS (Secure connection mode using the public certificate)**> item will be active only if there exists a public certificate installed.
5. When done, click [**Apply (** **)**].

Installing the certificate

1. Enter the certificate name.
2. Select the certificate file to be installed and certificate key, and click [**Install (** Install **)**] button.

Deleting the certificate

1. Click [**Delete (** Delete **)**] button.

802.1x

When connecting network, you can choose whether using 802.1x protocol, and then install the certification.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**802.1x**>.
3. Set the <**IEEE 802.1x Setting(EAPOL using EAP-TLS)**>.
   - Enable IEEE 802.1x : Specify the use of the 802.1x protocol.
   - EAPOL Version : Select version 1 or 2.
   - EAPOL ID : Enter the EAPOL ID.
   - EAPOL Password : Enter the EAPOL password.

▪ If the connected network device does not support the 802.1x protocol, the protocol will not operate properly even if you set it.

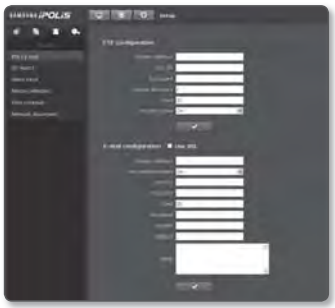
To install/remove 802.1x related certificates

1. Press the [**Browse (** Browse **)**] button for each item and select a certificate to install.
2. If no certificate is installed, you will see “Not Available” appearing next to the selected item.
3. Press the [**Install (** Install **)**] button to start installation with a message of “Installed” next to the item.
4. Press the [**Delete (** Delete **)**] button to remove the certificate.

EVENT SETUP

FTP / E-mail

You can configure the FTP/E-mail server settings so that you can transfer the images stored in the camera to your PC if an event occurs.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**FTP / E-mail**>.
3. Select <**FTP configuration**> or <**E-mail configuration**> and enter / select a desired value.
   - FTP configuration
     - Server address : Enter the IP address of the FTP server that you transfer the alarm images to.
     - User ID : Enter the user ID with which you will log in to the FTP server.
     - Password : Enter the user account password for logging into the FTP server.
     - Upload directory : Specify the FTP path where you will transfer the alarm images.
     - Port : The default port of the FTP server is 21; however, you can use a different port number according to the FTP server settings.
     - Passive mode : Select <**On**> if you need to connect in passive mode due to the firewall or the FTP server settings.
   - E-mail configuration
     - Use SSL : Specify the use of SSL.
     - Server address : Enter the IP address of the email server that you use for the email transfer.
       ex) smtp.hotmail.com
     - Use authentication : Select whether to use authorization.
     - User ID : Enter the user ID for logging into the email server.
     - Password : Enter the user account password for logging into the email server.
     - Port : The default port of the email server is 25; however, you can use a different port number according to the email server settings.
     - Recipient : Enter the address of the email recipient.

- Sender : Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.
- Subject : Enter a subject for your email.
- Body : Provide the text for the massage. Attach the alarm images to the email that you are preparing.

4. When done, click [**Apply (** ✓ **)**].

SD record

You can set the record conditions or the use of recording for the SD memory, check the size of stored data, or format the SD memory itself.

1. From the Setup menu, select the <**Event (** 🔔 **)**> tab.
2. Click <**SD record**>.

To make recording on the SD memory

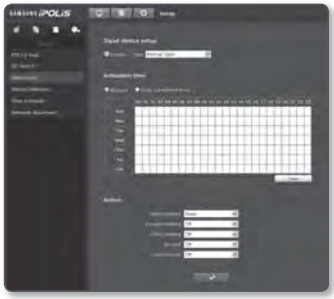
1. Check the <**Total size**> and the <**Free size**>.
2. If the SD memory has a sufficient free space, set <**Record**> to <**On**>. Otherwise, check the stored data and if you find them not important, then click <**Format**> to format the SD memory.
   - If your SD memory card writes slowly, only one frame per second will be stored.
   - For a SD memory card with a large capacity, the formatting will be slowed down accordingly.
   - If the size of data grows with time, only 1 fps can be stored even if you set the record quality to Full Frame.

3. Specify the record conditions.
   - Record profile : Display the number of profile to record.
   - Record 1 fps forcibly : Only one frame per second will be recorded regardless of the existing record profile.
     - For H.264, it will be enabled only if the bit rate is less than 4800.
     - For MJPEG, it will be enabled only if the resolution is less than 800x600.
   - Overwrite : If the SD memory is full, this will delete old data and store new data in replacement.
   - Pre-alarm duration : Specify the time point before the occurrence of the alarm; starting from the time point, the images will be transferred. You can specify up to 5 seconds before the occurrence of the alarm.
   - Post-alarm duration : Specify the time point after the occurrence of the alarm; to the specified time point, the images will be transferred. You can specify up to 120 seconds after the occurrence of the alarm.
4. When done, click [**Apply (** ✓ **)**].

Alarm input

You can set the alarm input type, activation time, and operation mode.

1. From the Setup menu, select the <**Event (** 🔔 **)**> tab.
2. Click <**Alarm input**>.
3. Specify an input device.
   - Type
     - Normal Open : It is normally open, but if it is closed, an alarm will be triggered.
     - Normal Close : It is normally closed, but if it is open, an alarm will be triggered.

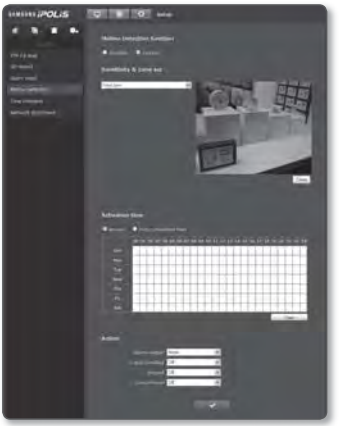


4. Specify the <**Activation time**>.
   - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
     - If set to Always, the activation time cannot be changed.
   - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
   - [Clear] : Reset all settings.

5. Specify an operation that will perform if an alarm occurs.
   - Alarm output : Select whether to set the alarm output if an alarm is incoming, and specify the alarm output time.
   - E-mail sending : Specify the use of email transfer in the alarm input setup.
   - FTP sending : Specify the use of FTP transfer in the alarm input setup.
   - Record : Specify the use of recording in the alarm input setup.
   - Goto Preset : Moves to the specified preset location when setting the alarm input.
     - Only if the camera pan/tilt receiver is installed, GoTo Preset is available.
6. When done, click [**Apply (** ✓ **)**].

Motion detection

1. From the Setup menu, select the <**Event (** ▲ **)**> tab.
2. Click <**Motion detection**>.



To set the Motion Detection

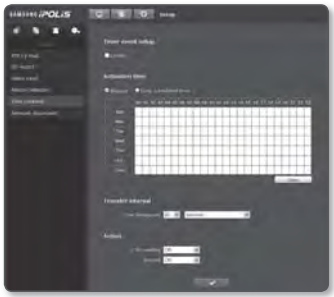
1. Specify the use of motion detection.
2. Select a sensitivity level of the motion detection.
3. Place the cursor at a point in the video and drag it to whatever you need.
   - You can specify up to 4 motion detection areas.
4. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to "**Alarm input**". (page 63)
5. When done, click [**Apply (** ✓ **)**].

- If you are controlling the Pan/Tilt/Zoom operation or fitting the focus of the camera, the motion sensor may not work.
- If camera is capturing a close object, the motion detection capability may degrade. In the following case, Motion detection function which is initially set may be worked abnormally.
  - The object color or brightness is similar to the background.
  - Multiple movements continue occurring at random due to a scene change or other reasons.
  - A fixed object continues moving in the same position.
  - An object hides other objects behind.
  - Too fast object.
  - Reflection / blur / shadow due to a strong light such as direct sunlight, illumination, or headlamp.
  - In severe snow, rain, wind or in dawn / dusk.

Time schedule

You can configure so that an event will occur at a scheduled time regardless of the actual occurrence of the event.

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Time schedule**>.



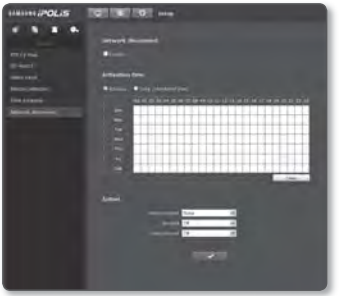
To set the timer event

1. Set <**Timer event setup**> to <**Enable**>.
2. Specify the <**Activation time**>.
   - Always : Always activates in operated mode at the set interval.
   - Only scheduled time : Periodically activates in operated mode at a specified time and date.
3. Specify the <**Transfer interval**>.
4. Specify the activation conditions.
   - FTP sending : Specify the use of the FTP transfer if an event occurs.
   - Record : Specify the use of recording if an event occurs.
5. When done, click [**Apply (** **)**].

Network disconnect

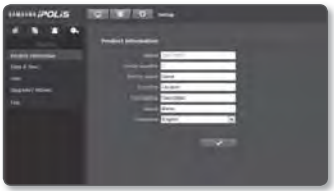
You can perform the saving/relay/preset operation after receiving an event of a physically disconnected network.

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Network Disconnect**>.
3. Specify the use of "Network disconnect".
4. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to "**Alarm input**". (page 63)
5. When done, click [**Apply (** **)**].



SYSTEM SETUP

Product information



1. From the Setup menu, select the <**System ( )**> tab.
2. Click <**Product information**>.
3. Check the camera information, or provide details according to your network environment.
   - Device name : Provide a device name that will be displayed on the Live screen.
   - Location : Specify the location where the camera is installed.
   - Description : Provide detailed information about the camera location.
   - Memo : Provide an explanation about the camera for better understanding.
   - Language : Select a preferred language for the Web Viewer OSD.
4. When done, click [**Apply ( )**].

■ Product related information only allows English for input.

Date & Time

1. From the Setup menu, select the <**System ( )**> tab.
2. Click <**Date & Time**>.
3. Specify the time and date that will be applied to the camera.
   - Current system time : Displays the current time settings of your system.
   - Timezone : Specify the local time zone based on the GMT.
   - Use daylight saving time : If checked, the time will be set one hour before the local time zone for the specified time period. This option will be displayed only in areas where DST is applied.

- System time setup : Specify the time and date that will be applied to your system.
  - Manual : Specify the time manually.
  - Synchronize with NTP server : Sync with the time of the specified server address.
  - Synchronize with PC viewer : Synchronize the time with the connected PC.

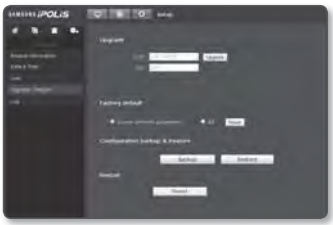
4. When done, click [**Apply (**)].

■ If you select the <**Synchronize with PC viewer**>, the standard timezone should be set the same as the current timezone in PC.

User

1. From the Setup menu, select the <**System (**)> tab.
2. Click <**User**>.
3. Provide the necessary user information.
   - Administrator Password Change : Change the password for the administrator.
   - Guest setup : If <**Guest access**> is allowed, the user with the guest account who accesses the web viewer can view only the Live viewer screen.
     ■ The ID/password for the guest account is guest/guest, which cannot be changed.
   - Current users : You can change the user information and adjust the permission level for a user who is set to <**Enable**>.
     - Video : You can select a video profile in the Liver viewer screen.
     - Audio-In : The audio input option will be activated in the Live Viewer screen.
     - Controls : You can control MIC and alarm button.
4. When done, click [**Apply (**)].

Upgrade / Reboot



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Upgrade / Reboot**>.
3. Select a desired item and set it appropriately.
   - Upgrade : Performs upgrading the system.
   - Factory default : Resets the system to the factory default.
     - Except network parameter : Reset the other settings except for the interface/ port/DDNS/IP filtering settings.
     - All : Resets all settings including the camera settings. (however, the log information will not be reset)
       - The IP addressing system will be defaulted to DHCP if you reset the camera. If no DHCP server is found, the previous settings will be restored automatically.
   - Configuration backup & Restore : Backs up the current system settings before performing the restoration process. The system is automatically restarts after backup or restoration.
   - Restart : Restarts the system.

To perform the upgrade

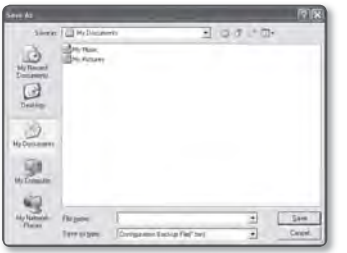
1. Click [**Upgrade**].
2. Click [**Browse**] and specify a file to upgrade.
3. Click [**Send**].

4. The "**Upgrade**" dialog appears where the progression will be shown in the bottom.

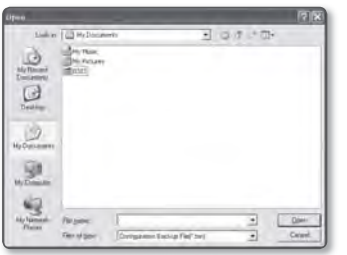
- If you forcibly terminate the upgrade process, upgrade will not be completed properly.

To save the current settings and restore the backup settings

1. Click [**Backup**].
   The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].
   The backup file will be saved to the specified path in the format of "**.bin**".
3. To restore the backup settings, click [**Restore**].



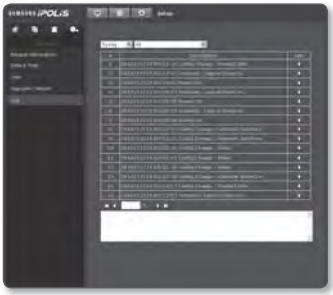
4. Select a backup file and click [**Open**].



- If you perform the backup or restoration, the web browser will be closed and the camera will reboots.

Log

You can check the system log or event log.



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Log**>.
3. Select a log type.
   - Syslog : You can check the system logs where any system changes are recorded including the time information.
   - Evtlog : You can check the event logs including the time information.
4. From the right log list, select an item to search for.
   - If you select <**All**> in the top left dropdown list, all logs for the applicable log type will be displayed.
5. If one page can not display all the logs available, use the bottom buttons to move to the previous, next, or the last item.

- If you want to view the details of a log, click [**Info (** **)**] in the right column of the log; the log information will be shown in the bottom pane.
- Each page displays 15 logs with the latest one displayed at the top.
- The event/system log list can contain up to 1000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.

SPECIFICATION

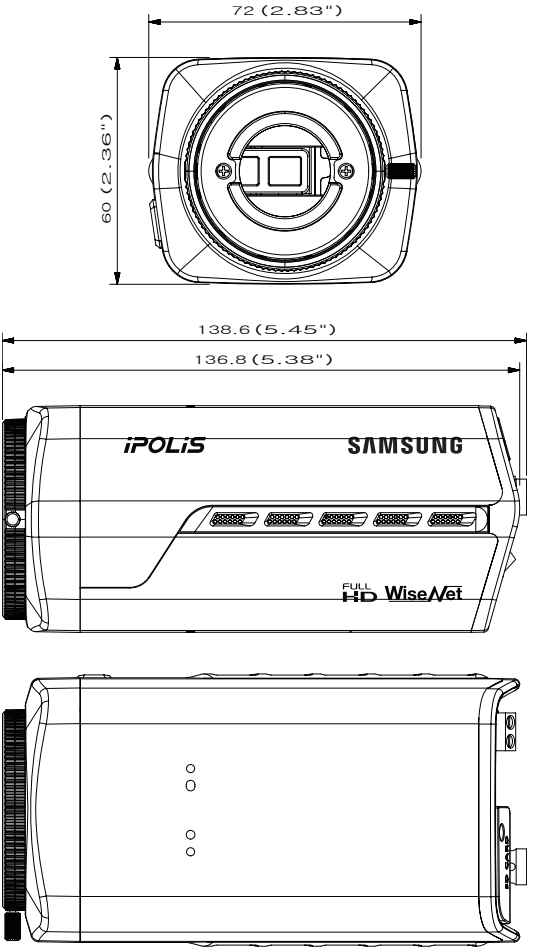
Items		Description
Video	Imaging Device	1/2.8" 3M PS CMOS
	Total Pixels	2,144(H) X 1,588(V)
	Effective Pixels	2,096(H) X 1,561(V)
	Scanning System	Progressive
	Min. Illumination	Color : 1 Lux (F1.2, 50IRE), 0.017Lux (Sens-up 60X) B/W : 0.08 Lux (F1.2, 50IRE), 0.001Lux (Sens-up 60X)
	S / N Ratio	50dB
	Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 704x480(N), 704x576(P), for installation
Lens	Focal Length (Zoom Ratio)	-
	Max. Aperture Ratio	-
	Angular Field of View	-
	Min. Object Distance	-
	Focus Control	-
	Zoom Movement Speed	-
	Lens Type	Manual / DC Auto Iris
	Mount Type	C/CS
Pan / Tilt / Rotate	Pan Range	-
	Pan Speed	-
	Tilt Range	-
	Tilt Speed	-
	Rotate Range	-
	Preset	-
	Preset Accuracy	-
	Auto Tracking	-

Items		Description
Operational	Camera Title	Off / On (Displayed up to 15 characters)
	Day & Night	Auto (ICR) / Color / B/W / Externel B/W
	Backlight Compensation	Off / BLC / HLC
	Wide Dynamic Range	Off / On (* 2M mode only)
	Contrast Enhancement	SSDR (Samsung Super Dynamic Range) (Off / On)
	Digital Noise Reduction	SSNRIII (2D+3D Noise Filter) (Off / On)
	Digital Image Stabilization	-
	Motion Detection	Off / On (4 programmable zones)
	Privacy Masking	Off / On (1ea 4 Point Polygonal + 16ea Rectangular zones)
	Sens-up (Frame Integration)	Off / Auto (2X ~ 60X)
	Gain Control	Off / Low / Medium / High
	White Balance	ATW / AWC / Manual / Indoor / Outdoor
	Electronic Shutter Speed	ESC / A.FLK / Manual
	Digital Zoom	-
	Flip / Mirror	Off / On
	Intelligent Video Analytics	-
	Alarm I/O	Input 1ea / Output 1ea (Relay)
	Remote Control Interface	RS-485
	RS-485 Protocol	SAMSUNG-T/E, PELCO-P/D, SUNGJIN

Items		Description
Network	Ethernet	RJ-45 (10/100BASE-T)
	Video Compression Format	H.264, MJPEG
	Resolution	<2M Mode> 800x600, 800x450, 640x480, 640x360, 320x240, 320x180, 1280x1024, 1024x768, 1280x960, 1920x1080 <3M Mode> 800x600, 800x450, 640x480, 640x360, 320x240, 320x180, 1280x1024, 1024x768, 1280x960, 1920x1080, 1600x1200, 2048x1536
	Max. Framerate	● For MJPEG <2M Mode> 800x600, 800x450, 640x480, 640x360, 320x240, 320x180 : 30 fps 1280x1024, 1024x768, 1280x960 : 15 fps 1920x1080 : 10 fps <3M Mode> 800x600, 800x450, 640x480, 640x360, 320x240, 320x180 : 20 fps 1280x1024, 1024x768, 1280x960 : 15 fps 1920x1080, 1600x1200 : 10 fps 2048x1536 : 5 fps <FTP/Email Profile> Max. 5 fps ● For H.264 <2M Mode> Max. 30 fps <3M Mode> Max. 20 fps
	Video Quality Adjustment	H.264 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control
	Bitrate Control Method	H.264 : CBR or VBR MJPEG : VBR
	Streaming Capability	Multiple Streaming (Up to 6 Profiles)
	Audio I/O	Mic / Line in, Line out
	Audio Compression Format	G.711 μ-law
	Audio Communication	2-Way

Items		Description
Network	IP	IPv4, IPv6
	Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS
	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x Authentication
	Streaming Method	Unicast / Multicast
	Max. User Access	10 users at Unicast Mode, 20 users at Multicast Mode
	Memory Slot	SD/SDHC Memory Slot
	ONVIF Conformance	Yes
	Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Denish, Portuguese, Czech, Polish, Turkish, Rumanian, Serbian, Dutch, Croatian, Hungarian, Greek
	Web Viewer	Supported OS : Windows XP / VISTA / 7, MAC OS Supported Browser : Internet Explorer 7.0 or Higher, Firefox, Chrome, Safari
	Central Management Software	NET-i viewer
Environmental	Operating Temperature / Humidity	-10°C ~ +50°C (+14°F ~ +122°F) / 20 ~ 80% RH
	Ingress Protection	-
Electrical	Input Voltage / Current	12V DC, 24V AC, PoE(IEEE802.3af)
	Power Consumption	Max. 6W input to DC 12V / Max. 7W input to AC 24V, PoE(DC 48V)
Mechanical	Color / Material	Body : Dark Gray / Metal
	Dimension (WxHxD)	W72 x H60 x D136.8 mm
	Weight	440g

PRODUCT OVERVIEW



TROUBLESHOOTING

PROBLEM	SOLUTION
I can't access the camera from a web browser.	• Check to make sure that the camera's Network settings are appropriate. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. • If connected using a DDNS URL, verify that the MAC address has been properly entered. • If the camera is connected to a Broadband Router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• Connected Viewers become disconnected upon any change to camera or network configurations. • Check all network connections. • If the camera is connected over an PPPoE network, it' s possible for Viewer to disconnect under poor network conditions.
I cannot connect to the system using a tab browser of Internet Explorer 7.0.	• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.
The camera connected to the network is not detected in the IP installer program.	• Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.

PROBLEM	SOLUTION
Cannot record into the SD memory card.	• Check if the memory card is defective. • Check if the write protection tab of the memory card is set to "LOCK".
SD memory indicator does not turn on even when the SD memory card is inserted.	• Check if the memory card is defective. • Check if the <Record> is checked in <Setup> → <Event> → <SD Record> menu.
A SD memory card is inserted but the product does not recognize it.	• Check if the memory card is inserted in the proper direction. Operation of memory card that is formatted by other devices is not guaranteed with this camera unit • Format the memory card again in <Setup> → <Event> → <SD Record> menu.
Cannot format the SD memory card.	• Check if the write protection tab of the memory card is set to "LOCK".

OPEN SOURCE ANNOUNCEMENT

Some software components of this product incorporate source code covered under the BSD license as follows.

Component Name	License	License URL
lighttpd 1.4.25	BSD 2.0	http://www.opensource.org/licenses/bsd-license.html
librtp 1.20	BSD 1.0	

lighttpd is a secure, fast, compliant, and very flexible web-server that has been optimized for high-performance environments. It has a very low memory footprint compared to other webservers and takes care of cpu-load. Its advanced feature-set (FastCGI, CGI, Auth, Output-Compression, URL-Rewriting and many more) make lighttpd the perfect webserver-software for every server that suffers load problems.

For more additional information, send email to help.cctv@samsung.com.

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  - Base Kernel, Busybox, Sysvinit, dosfstools
- LGPL S/W
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